

ABSTRACT

[0067] A reorientation controller for a satellite includes a slew rate command generator that generates a slew rate command signal ($\bar{\omega}_{r_cmd}$) in response to an attitude error signal. The attitude error signal corresponds to the difference between an initial attitude and a target attitude. The slew rate command generator may introduce a phase lead (θ_L) into the slew rate command signal ($\bar{\omega}_{r_cmd}$). The controller may perform a spin phase synchronization when the target attitude is unsynchronized in spin phase with the initial attitude. The satellite may perform a reorientation maneuver in response to the slew rate command signal ($\bar{\omega}_{r_cmd}$).